

VPDES PERMIT PROGRAM FACT SHEET

This document gives pertinent information concerning the VPDES permit listed below. This permit is being processed as a Minor, industrial permit. The industrial discharges result from the operation of a cold water aquatic animal production facility (trout hatchery).

The permit process consists of: limiting pH, total suspended solids, settleable solids and temperature. The permit also contains monitoring requirements for flow, biochemical oxygen demand and ammonia.

1. Facility Name and Address: SIC Code: 0921

Wytheville Fish Cultural Station
1260 Red Hollow Road
Max Meadows, VA 24360

Location: Rt. 629, off Route 52 near Fort Chiswell

2. Owner Name and Address:

Virginia Department of Game and Inland Fisheries
4010 West Broad Street
P.O. Box 11104
Richmond, VA 23230


3. Permit No: VA0059137 Expiration Date: February 4, 2010

4. Owner Contact: Gary F. Martel, Director
Fisheries Division
Department of Game and Inland Fisheries
4010 West Broad Street
P.O. Box 11104
Richmond, VA 23230
Telephone No.: (804) 367-1004

5. Facility Contact: C. Odell Whisman, Hatchery Superintendent
Wytheville Fish Cultural Station
1260 Red Hollow Road
Max Meadows, VA 24360
Telephone: (276) 637-3212

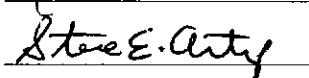
6. Application Processing:

DEQ Regional Office: Southwest Regional Office
Application Complete Date: August 28, 2009
Permit Drafted By: Mark S. Trent



Date: November 2, 2009

Reviewed By:



Date: 11/2/2009

7. Receiving Waters Classifications:

Receiving Stream:	Glade Creek
Basin:	New River
Subbasin:	none
Section:	2
Class:	IV
Special Standards:	v
River Mile:	9-GLD000.1
Tidal Waters:	NO
On 303(d) list:	NO

8. Licensed Operator Requirements: None

9. Reliability Class: NA

10. Permit Characterization:

- ☐ Private
- ☐ Federal
- ☒ State
- ☐ POTW
- ☐ Possible Interstate Effect
- ☐ Interim Limits in Other Document

11. Facility Location:

The facility is located off Rt. 629, Red Hollow Road, south of Route 52, near the community of Fort Chiswell, VA. A location map is included as **Attachment A**.

Name of Topo: Max Meadows, VA 7.5' Quadrangle

Latitude: 36° 55' 56"N

Longitude: 80° 53' 57"

12. Facility Description:

The Wytheville State Fish Hatchery is a state-owned cold water fish production facility with an annual production capacity of approximately 160,000 pounds of trout. The facility utilizes 48 raceways for rearing of trout which are then used to stock streams throughout the region. Each raceway is approximately 100 feet long, 8 feet wide and 3 feet deep. The raceways are divided into eight parallel trains. Each raceway has a drain which is connected to a manifold which collects and discharges water from the eight trains. This set-up results in five separate identical discharge pipes (001, 002, 003, 004 and 005) within a short segment of the receiving stream.

Water for the hatchery is supplied by two springs (Boiling Spring and West

Spring) located near the hatchery. Water from the springs is directed into the head of the facility to supply the eight trains of raceways. Under normal operations, water supplying the raceways flows through each train so that overflow from one raceway supplies the next raceway in the train. The ultimate discharge from the raceways is identified as outfall 005, and represents the total flow from the operation.

Outfall 005, is a continuous discharge, but the other four discharge locations (001, 002, 003 and 004) are intermittent discharges which result from routine draining of the raceways. Each raceway is fitted with a drain which is opened two times per week so that accumulated waste and debris is flushed from the system. During this process, the raceway drains are opened for approximately 5 minutes and the water level in the basins is dropped to approximately 1 foot depth. The drains are promptly closed and normal flow from outfall 005 resumes.

The application indicates that the facility discharges a maximum flow of 0.54 MGD. A schematic diagram of the water flow through the facility is included as **Attachment B**.

Discharge Description

OUTFALL NUMBER	DISCHARGE SOURCE	TREATMENT	FLOW
001	Trout Raceways	None	0.18 MGD
002	Trout Raceways	None	0.09 MGD
003	Trout Raceways	None	0.09 MGD
004	Trout Raceways	None	0.09 MGD
005	Trout Raceways	None	0.09 MGD

13. Treatment Provided:

No treatment is provided for the wastewater. Each raceway outlet discharges directly to Glade Creek.

14. Sewage Sludge Use or Disposal:

Domestic sewage is treated onsite under the provisions of a separate VPDES permit (VA0068144).

15. Residuals Management:

Since each raceway is flushed regularly, residuals do not accumulate on the concrete floor of the channel. Therefore, the facility does not manually remove material from the basins. Dead fish are routinely removed from the raceways and placed in a disposal pit on the property.

The recommended permit conditions for aquatic animal production facilities include a special condition which requires a solids handling and disposal plan. Although the facility currently does not have an approved plan on file with the regional office, the permit includes a special condition which requires an approved plan, prior to any mechanical cleaning of the raceways.

16. Material Storage:

No wastes, fluids, industrial sludges, or pollutants are stored or managed at this facility. All fish food and any additives or treatment chemicals are stored indoors and not exposed to rainfall or runoff.

17. Ambient Water Quality Information:

The facility discharges to Glade Creek, a tributary of Reed Creek, which is a tributary to the New River.

The critical flow frequencies for the receiving stream at the discharge point are estimated from the recorded values at a downstream gage site (Glade Creek at Grahams Forge - 031668800). The flow values at the discharge point were determined by drainage area proportions. The resulting critical flow estimates for Glade Creek at the discharge point are as follows:

7-Day, 10-Year Low Flow:	4.2 cfs = 2.7 MGD
1-Day, 10-Year Low Flow:	4.1 cfs = 2.6 MGD
30-Day, 5-Year Low Flow:	4.2 cfs = 2.7 MGD
Harmonic Mean Flow:	4.7 cfs = 3.0 MGD

The Water Quality standards require the Board to use mixing zone concepts in evaluating permit limits for acute and chronic toxicity to ensure that the effluent from the discharge does not induce toxicity to the aquatic community. The Department has established a procedure to evaluate the mixing zone to determine the portion of the low flow volumes (i.e. 7Q10, 1Q10, 30Q5, Harmonic Mean) which may be used in a simple mixing calculation to determine the wasteload allocations for each conservative pollutant. This procedure utilizes a DEQ-OWPS model (MIX.EXE) to estimate a portion of the low flow which may be used as a mixing zone in accordance with 9 VAC 25-260.20.B.

Based upon stream flow information at the discharges and the results of the model, the staff has made a determination that a **complete mix assumption** is **appropriate** to evaluate the potential **acute** and **chronic** effects of the discharge. Therefore, in order to ensure that the discharge has no adverse impact upon passing or drifting organisms, the model results indicate that the evaluation of the potential acute effects of the discharge may be calculated using 100% of the 1Q10. Similarly, to ensure that the discharge does not have an adverse impact to the survival, growth and reproduction of the aquatic community, the potential chronic effects of the discharge are calculated using 100% of the 7Q10.

18. Site Inspection:

Date: October 22, 2008

Performed By: W. B. Carico

An inspection of the facility was conducted on October 22, 2008 and the facility was determined to be in compliance with all permit requirements.

19. NPDES Permit Rating Worksheet:

The staff has completed the NPDES Permit Rating Worksheet and has determined that the facility does not meet the criteria to be classified as a major source. The completed worksheet is on file at the regional office.

Total Score: 15

20. Antidegradation Review & Comments:

Tier: 1 _____ 2 X 3 _____

The State Water Control Board's Water Quality Standards includes an antidegradation policy (9 VAC 25-260-30). All state surface waters are provided one of three levels of antidegradation protection. For Tier 1 or existing use protection, existing uses of the water body and the water quality to protect these uses must be maintained. Tier 2 water bodies have water quality that is better than the water quality standards. Significant lowering of the water quality of Tier 2 waters is not allowed without an evaluation of the economic and social impacts. Tier 3 water bodies are exceptional waters and are so designated by regulatory amendment. The antidegradation policy prohibits new or expanded discharges into exceptional waters.

The antidegradation review begins with a Tier determination. Glade Creek is determined to be a Tier 2 waterbody. This determination is based on the fact that Glade Creek is a small headwater stream in a rural area and there are no known violations of the water quality standards in the watershed.

21. Effluent Screening & Limitation Development:

Part I.A of the existing permit contains monitoring requirements for pH, total suspended solids, settleable solids, ammonia-nitrogen, biochemical oxygen demand and temperature. A review of the monitoring results indicates that the facility has consistently complied with the effluent limitations in the permit. The results of the monitoring of the pollutants contained in the Part I.A requirements indicates that the levels of potential pollutants discharged from the facility do not contravene the water quality standards of the receiving stream, and do not require that additional effluent limitations be imposed upon the discharge.

A review of the monitoring data for ammonia nitrogen indicates that the concentration in the discharge ranges from 0.24 to 0.48 mg/l. An evaluation of the monitoring data is contained in Attachment C, and indicates that an effluent limitation is not necessary to protect the water quality standards of the receiving stream.

Similarly, all results for the BOD5 monitoring indicates that the level of oxygen demand has been reported to be below the quantification level of the potential pollutant. Given the high degree of aeration required for maintenance of a trout population and the low concentrations of oxygen demanding pollutants as evidenced by the low BOD5 analyses, the potential impact to the DO of the receiving stream is negligible.

22. Monitoring Frequency Reduction:

Current agency guidelines allow for monitoring frequency reductions based upon the performance of the treatment system during the most recent three years of operation. However, because the sampling schedule for the monitoring program alternates between each of the five outlet pipes, the staff will maintain a monitoring frequency of once per month for all limited pollutants.

23. Effluent Limitations:

The effluent limitations proposed for this facility are presented below and are based on the Department's standard effluent limits developed for raceway type cold water aquatic animal production facilities.

- a. pH - The pH limits contained in the permit are identical to those in the existing permit, and are based upon the water quality standards for the receiving stream.
- b. BOD₅ - The permit includes a monitoring requirement for biochemical oxygen demand (BOD), which was initially established based upon the Department's standard effluent limits for raceway type aquaculture operations. A review of the results reported during the last permit indicates that the facility will not contravene the water quality standards for dissolved oxygen. Therefore, the permit proposes no effluent limits for BOD. The draft permit proposes to continue the monitoring frequency of once per six months.
- c. NH₄ - The existing permit contains a monitoring requirement for ammonia. An analysis of these results of the monitoring indicates that a limit for ammonia is not necessary to protect the water quality standards of the receiving stream (see Attachment C). The draft permit proposes to continue monitoring of ammonia at a frequency of once per six months.
- d. TSS - The total suspended solids limits are based on the DEQ standard limitations for raceway type cold water aquatic animal production facilities, and are unchanged from the existing permit.
- e. SS - The settleable solids limits are based on the DEQ standard limitations for raceway type cold water aquatic animal production facilities, and are unchanged from the existing permit.
- f. Temp - The temperature limits are unchanged from the existing permit.

The effluent limitations apply to all five discharge locations; however, the permit allows the operator to rotate their sampling between the five outlets, and report as one discharge. Because all five outlets are essentially identical discharges with adjacent outlets on the same stream, the permittee may test the effluent of just one of the outfalls and report all monitoring as a single outfall (001). This monitoring scenario was established in a prior permit reissuance, and is being extended to this permit term.

A summary of the proposed limits are presented below:

() Interim Limitations
 (X) Final Limitations

Effective Dates: From: 2/5/10
 To: 2/4/15

PARAMETER	BASIS FOR LIMITS	DISCHARGE LIMITATIONS				MONITORING REQUIREMENT	
		Monthly Average	Weekly Average	Minimum	Maximum	Frequency	Sample Type
Flow (mgd)	NA	NL	NA	NA	NL	1/ Month	Estimate
PH (Std Units)	3	NA	NA	6.0	9.0	1/ Month	Grab
BOD5	3	NA	NA	NA	NL	1/ 6 Months	Grab
Total Suspended Solids	2	10 mg/l	NA	NA	15 mg/l	1/ Month	Grab
Temperature	3	NA	NA	NA	29° C	1/ Month	IS
Ammonia	3	NA	NA	NA	NL	1/6 Months	Grab
Settleable Solids	2	0.1 ml/l	NA	NA	0.5 ml/l	1/ Month	Grab

NA = Not Applicable
 NL = No Limitations

The basis for the limitations codes are:

1. Federal Effluent Requirements
2. Best Engineering Judgement
3. Water Quality Standards
4. Other (model, WQM Plan, etc.)
5. Best Professional Judgement

24. Compliance Schedules:

There are no compliance schedules or other enforcement action either pending or active for the facility.

25. Toxics Management Program:

The maximum potential discharge from the operation is approximately 540,000 gallons per day. Although the Department's toxic management guidelines require that any industrial discharger with a daily maximum wastewater flow greater than 50,000 gallons per day must conduct toxic monitoring, trout hatcheries have traditionally been exempt from this requirement.

26. Antibacksliding:

Since the effluent limitations proposed in the reissuance are identical to those in the current permit, the proposed permit action is consistent with the anti-backsliding requirements of the regulations.

27. TMDL Development:

No TMDLs are proposed for this receiving stream. The facility discharges to a stream segment that is **not** on the current 303(d) list.

28. Special Conditions:

- a. **Residuals Disposal:** A special condition is included in the permit which prohibits solids removal from the basins without prior approval of the Board staff. Should solids removal become necessary, the operator will be required to develop and maintain a solids management and disposal plan. (Part I.B.1).

Rationale: The standard permit conditions for aquatic animal production facilities require a solids handling and disposal plan for any solids removed from the facility. The special condition is adapted from the standard language contained in the recommended VPDES permit conditions for aquatic animal production facilities.

- b. **Monitoring and Reporting Requirements:** The permit contains a special condition which allows the operator to alternate the discharge monitoring between discharges that result from routine daily discharges (005) and intermittent raceway drain discharges (001-004). The special condition also allows the reporting of the results on a single form. (Part I.B.2)

Rationale: Because the five outlets from the facility are essentially identical, and only one outlet may discharge at any one time, the monitoring of one is considered to be representative of all. This monitoring scenario is extended from previous permit terms.

- c. **Chemical Additives:** The permit contains a special condition which prohibits the addition of chemical additives to the water or wastewater without prior approval of the Board staff (Part I.B.3).

Rationale: The special condition is adapted from the standard language contained in the general VPDES permit for aquatic animal production facilities (9 VAC 25-195-10), and replaces the special condition in the existing permit which addresses the use of Chloramine-T and other veterinary drugs.

- d. **Discharge of Solids:** The permit contains a special condition which prohibits the discharge of organic solids which would cause the degradation of state waters (Part I.B.4).

Rationale: This special condition is adopted from the standard language contained in the general VPDES permit for aquatic animal production facilities (9 VAC 25-195-10).

- e. **Additional Monitoring and Reporting Requirements:** The permit includes special conditions which specify additional monitoring and reporting requirements. (Part I.B.5).

Rationale: Authorized by VPDES Permit Regulation, 9 VAC 25-31-190 J 4 and 220 I. This condition is necessary when toxic and conventional pollutants are monitored by the permittee and a maximum level of quantification and/or a specific analytical method is required in order to assess compliance with a permit limit or to compare effluent quality with a numeric criterion. The condition also establishes protocols for calculation of reported values.

- f. **Part II, Conditions Applicable to All Permits:** The permit includes "boilerplate" special conditions assigned to all VPDES permits.

Rationale: VPDES Permit Regulation, 9 VAC 25-31-190 requires all VPDES permits to contain or specifically cite the conditions listed.

29. Changes to the Permit:

No changes are proposed in the permit.

30. Variances/Alternate Limits or Conditions:

No certified operator is required for the wastewater system, since no wastewater treatment is provided.

The special condition which identifies notification levels of toxic pollutants in accordance with 9 VAC 25-31-200 is not included in the permit. The special condition applies only to existing mining, commercial, manufacturing and silvicultural discharges. Because the Wytheville Fish Cultural Station is an aquaculture facility, it is considered an agricultural facility, and is not subject to this requirement.

31. Public Notice:

In accordance with 9 VAC 25-31-290, a public notice will be published once per week for two consecutive weeks in a newspaper of general circulation in the area affected by the discharge. A copy of the public notice, and all pertinent information is on file and may be inspected or copied by contacting Mark Trent at:

Department of Environmental Quality
Southwest Regional Office
355 Deadmore Street
P.O. Box 1688
Abingdon, VA 24212-1688
Phone: (540) 676-4800
E-mail address: mark.trent@deq.virginia.gov

Persons may comment in writing, or by electronic mail to the DEQ on the proposed reissuance of the permit, and may request a public hearing, during the comment period. Comments shall include the name, address, and telephone number of the writer, and shall contain a complete, concise statement of the factual basis for comments. Only those comments received within this period will be considered. The DEQ may decide to hold a public hearing if public response is significant. Requests for public hearings shall state the reason why a hearing is requested, the nature of the issues proposed to be raised in the public hearing and a brief explanation of how the requester's interests would be directly and adversely affected by the proposed permit action. Following the comment period, the Board will make a determination regarding the proposed permit action. This determination will become effective, unless the DEQ grants a public hearing. Due notice of any public hearing will be given.

Public Notice Beginning date: _____

Public Notice End date: _____

32. Other Comments:

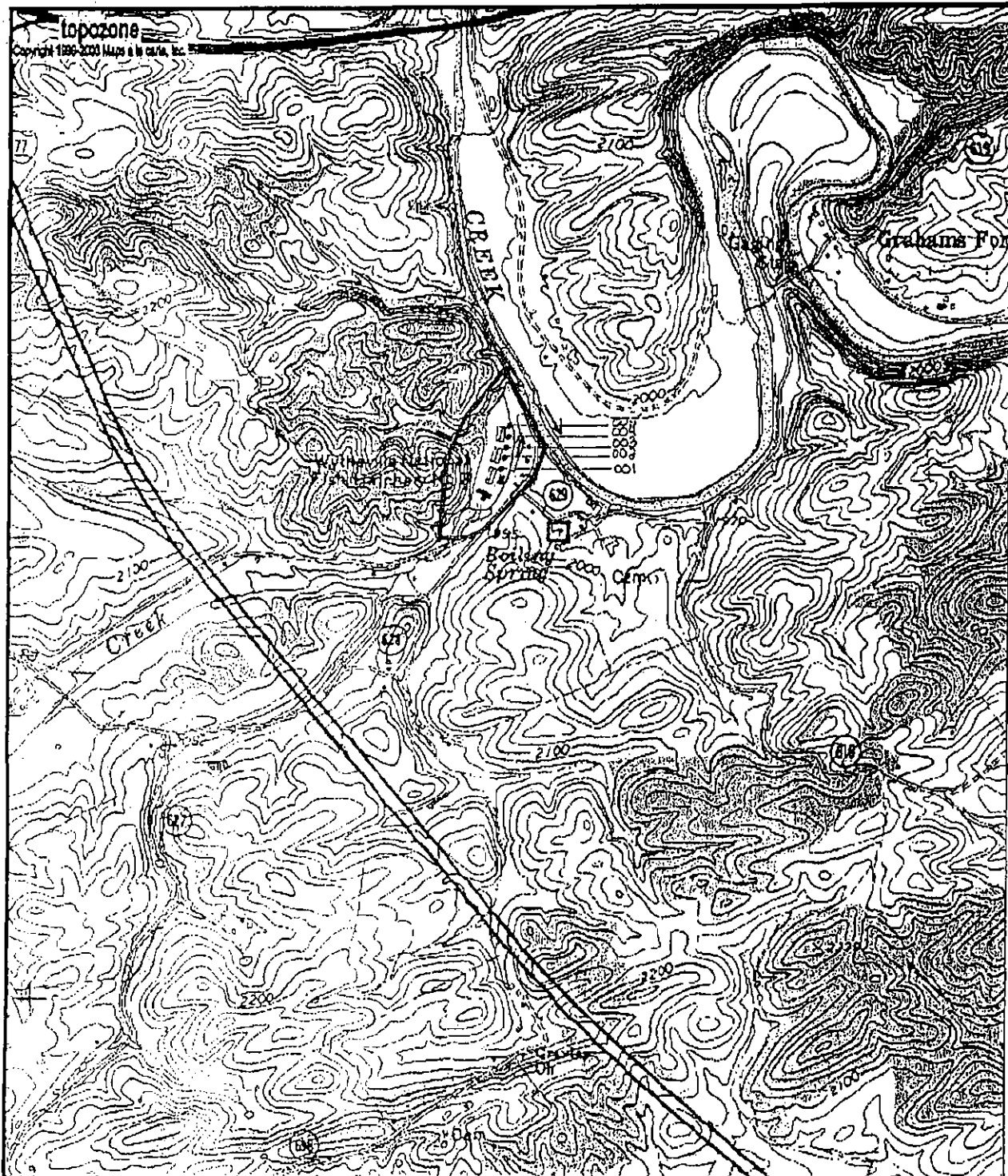
During previous permit terms, the Department had issued a waiver from monitoring of certain Part A pollutants listed on Part V of the Form 2C application. This waiver is being extended to the current application.

Because no toxic management program is required, the facility will be exempt from the chemical data collection requirements of the special condition for monitoring usually applied to facilities upon reissuance.

Topographic Locator Map

TopoZone - The Web's Topographic Map

Page 1 of 1



Map center is UTM 17 509066E 4087023N (WGS84/NAD83)
 Max Meadows quadrangle - TopoZone Pro elevation display
 Projection is UTM Zone 17 NAD83 Datum

M=-7.377
 G=0.061

Schematic of Water Flow Pattern at the Wytheville Fish Cultural Station

Water Source: Two local
springs – Boiling Springs
and West Springs



5 MGD (12 Month Average)

Outfall #
Flow

001
0.18 MGD

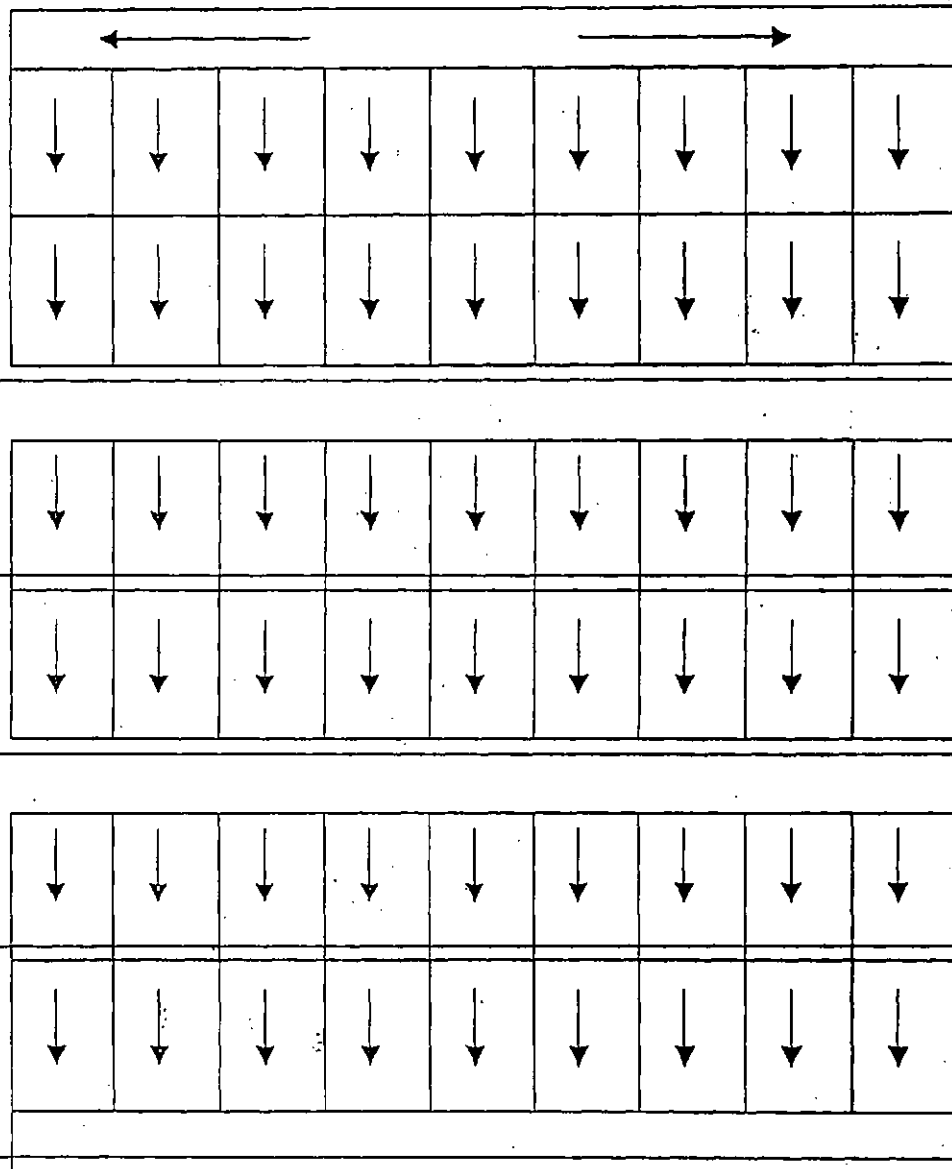
002
0.09 MGD

003
0.09 MGD

004
0.09 MGD

005
0.09 MGD

To Glade Creek



Attachment C
Evaluation of Ammonia Permit Limits
Wytheville Fish Cultural Station
VPDES Permit No. VA0059137

I. Available Data:

The effluent limitations and monitoring requirements for the current permit require that Ammonia-Nitrogen be sampled at least once per six months. During the current permit period, Wytheville Fish Cultural Station has reported 9 analyses for ammonia during the last four years of the permit. The analyses have ranged from a minimum of 0.24 mg/l to maximum of 0.48 mg/l.

II. Water Quality Standards:

The water quality standards for ammonia are based on the tables presented in 9 VAC 25-260-155. The tables require ambient levels of pH and temperature be used to determine the appropriate ammonia standard for the stream. However, since no monitoring data is available for Glade Creek, monitoring data from the outfall is used to estimate the ambient conditions.

It is unlikely that there will be a simultaneous occurrence of minimum pH and maximum temperature. Therefore, 90th percentile values of the data were used to approximate ambient worst-case conditions. The 90th percentile of the maximum pH is 7.3 S.U., and the 90th percentile of the maximum temperature is 15° C. Therefore, according to the ammonia WQS tables, the acute ammonia standard for the stream is 26.2 mg/l, and the chronic ammonia standard is 5.1 mg/l total ammonia.

Since these figures are expressions of total ammonia, and the monitoring data and permit limits are expressed in terms of ammonia-nitrogen, (NH₃-N), the standards must be converted using the established conversion factor of 0.822. Therefore, the acute ammonia-nitrogen standard for the stream is (26.2 * 0.822) or 21.5 mg/l NH₃-N, and the chronic ammonia-nitrogen standard is (5.1 * 0.822) or 4.2 mg/l NH₃-N.

III. Critical Stream Flow Values:

The facility discharges to Glade Creek, a tributary of the New River. The critical flow frequencies for the receiving stream at the discharge point are provided in Item 17 of the Fact Sheet.

The Water Quality standards require the Board to use mixing zone concepts in evaluating permit limits for acute and chronic toxicity to ensure that the effluent from the discharge does not induce toxicity to passing or drifting organisms. Based upon stream flow information at the discharge and the results of the model, the staff has made a determination that a **complete mix assumption** is appropriate to evaluate the potential acute and chronic effects of the discharge. Consequently, all calculations used to predict potential acute and chronic toxic affects are made using 100% of the critical stream flow volumes.

IV. Wasteload Allocation:

The Wasteload Allocation for acute and chronic conditions were determined using a steady state complete mix analysis as per the following formula:

$$WLA = \frac{C_o(Q_e + Q_s) - (C_s)(Q_s)}{Q_e}$$

Where:

- C_o = In-stream standard
- C_s = Mean background conc.
- Q_e = Maximum daily Flow
- Q_s = Critical Stream flows

Therefore the Acute WLA is equal to 129 mg/l and the Chronic WLA is equal to 25.2 mg/l.

VI. Effluent Limitations:

The need for effluent limits for ammonia was determined using the Department's WLA computer program and the monitoring data submitted on the discharge monitoring reports. The program output is attached. The results of the program indicate that **NO LIMIT IS NEEDED FOR-AMMONIA.**



COMMONWEALTH of VIRGINIA

DEPARTMENT OF ENVIRONMENTAL QUALITY

Permit No. VA0059137

Effective Date: *pending*

Expiration Date: *pending*

AUTHORIZATION TO DISCHARGE UNDER THE
VIRGINIA POLLUTANT DISCHARGE ELIMINATION SYSTEM

AND

THE VIRGINIA STATE WATER CONTROL LAW

In compliance with the provisions of the Clean Water Act as amended and pursuant to the State Water Control Law and regulations adopted pursuant thereto, the following owner is authorized to discharge in accordance with the information submitted with the permit application, and with this permit cover page, Part I - Limitations and Monitoring Requirements, and Part II - Conditions Applicable To All VPDES Permits, as set forth herein.

Owner:	Virginia Department of Game and Inland Fisheries
Facility Name:	Wytheville Fish Cultural Station
City:	Max Meadows
County:	Wythe County
Facility Location:	1260 Red Hollow Road; near Fort Chiswell

The owner is authorized to discharge to the following receiving stream:

Receiving Stream:	Glade Creek
Basin:	New River
Subbasin:	None
Section:	2
Class:	IV
Special Conditions:	v

Director, Department of Environmental Quality

Date

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

1. During the period beginning with the permit's effective date and lasting until the permit's expiration date, the permittee is authorized to discharge from outfall serial number 001.

Such discharges shall be limited and monitored by the permittee as specified below:

EFFLUENT CHARACTERISTICS	DISCHARGE LIMITATION		MONITORING REQUIREMENTS		
	Monthly Average	Weekly Average	Minimum	Maximum	Frequency Sample Type
Flow (MGD)	NL	NA	NA	NL	1/ Month Estimate
pH (standard units)	NA	NA	6.0	9.0	1/ Month Grab
BOD ₅ (mg/l)	NA	NA	NA	NL	1/6 Months Grab
Total Suspended Solids	10 mg/l	NA	NA	15 mg/l	1/ Month Grab
Temperature	NA	NA	NA	29°C	1/ Month Immersion Stabilization
Ammonia (NH ₃ -N)	NA	NA	NA	NL	1/6 Months Grab
Settleable Solids	0.1 ml/l	NA	NA	0.5 ml/l	1/ Month Grab

NL = No Limitation, monitoring required
NA = Not Applicable

2. See Part I.B.5 for additional instructions regarding monitoring and reporting requirements.

3. There shall be no discharge of floating solids or visible foam in other than trace amounts.

B. OTHER REQUIREMENTS OR SPECIAL CONDITIONS

1. No solids shall be removed from the raceways without prior approval of the Board staff. Should solids removal become necessary, the permittee shall submit a solids handling and disposal plan to the Southwest Regional Office for approval.
2. Monitoring of the discharges in accordance with Part I.A shall be conducted on one outfall per month. The operator shall alternate sample collection monthly, between discharges that occur from cleaning operations (001, 002, 003, & 004) and discharges that occur from routine daily operations (005). All discharges shall be reported on the DMR as outfall 001. The source of the sample (001, 002, etc.) shall be indicated on the discharge monitoring report in the comments section.
3. There shall be no chemicals added to the water or waste which may be discharged, unless prior approval of the chemicals is granted by the Department. Wastewater discharges shall not contain chemicals in amounts that are toxic to aquatic life, and shall not have detectable levels of chlorine.
4. Organic solids shall not be discharged in amounts which cause stream bed accumulations or degradation of state waters as determined in accordance with standard procedures.
5. Compliance Reporting under Part I.A:

- a. The quantification levels (QL) shall be as follows:

<u>Effluent Characteristic</u>	<u>Quantification Level</u>
Total Suspended Solids	1.0 mg/l
Settleable Solids	0.1 ml/l
BOD5	5.0 mg/l
Ammonia	0.2 mg/l

- b. Reporting:

Any single datum required shall be reported as "<QL" if it is less than the QL in above. Otherwise the numerical value shall be reported.

Monthly Average -- Compliance with the monthly average limitations and/or reporting requirements for the parameters listed in Part I A and B shall be determined as follows: All concentration data below the QL listed above shall be treated as zero. All concentration data equal to or above the QL listed in a. above shall be treated as it is reported. An arithmetic average shall be calculated using

all reported data for the month, including the defined zeros. This arithmetic average shall be reported on the Discharge Monitoring Report (DMR) as calculated. If all data are below the QL, then the average shall be reported as "<QL". If reporting for quantity is required on the DMR and the calculated concentration is <QL, then report "<QL" for the quantity. Otherwise use the calculated concentration.

Daily Maximum -- Compliance with the daily maximum limitations and/or reporting requirements for the parameters listed in Part I A and B shall be determined as follows: All concentration data below the QL listed in a. above shall be treated as zero. All concentration data equal to or above the QL shall be treated as reported. An arithmetic average shall be calculated using all reported data, including the defined zeros, collected within each day during the reporting month. The maximum value of these daily averages thus determined shall be reported on the DMR as the Daily Maximum. If all data are below the QL, then the average shall be reported as "<QL". If reporting for quantity is required on the DMR and the calculated concentration is <QL, then report "<QL" for the quantity. Otherwise use the calculated concentration.

Significant Digits -- The permittee shall report at least the same number of significant digits as the permit limit for a given parameter. Regardless of the rounding convention used by the permittee (i.e., 5 always rounding up or to the nearest even number), the permittee shall use the convention consistently, and shall ensure that consulting laboratories employed by the permittee use the same convention.

Part I. Virginia Draft Permit Submission Checklist

In accordance with the MOA established between the Commonwealth of Virginia and the United States Environmental Protection Agency, Region III, the Commonwealth submits the following draft National Pollutant Discharge Elimination System (NPDES) permit for Agency review and concurrence.

Facility Name:

WYTHE Fish Cultural Station (Hatchery)

NPDES Permit Number:

VA0059137

Permit Writer Name:

M. Trent

Date:

11-2-2009

Major ☐

Minor ☒

Industrial ☒

Municipal ☐

TMDL Related ☐

A. Draft Permit Package Submittal Includes:	Yes	No	N/A
1. Permit Application?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Complete Draft Permit (for renewal or first time permit – entire permit, including boilerplate information)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Copy of Public Notice?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
4. Complete Fact Sheet?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Priority Pollutant Screening to determine parameters of concern?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
6. Reasonable Potential analysis showing calculated WQBELs?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
7. Dissolved Oxygen calculations?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
8. Whole Effluent Toxicity Test summary and analysis?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
9. Permit Rating Sheet for new or modified industrial facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

B. Permit/Facility Characteristics	Yes	No	N/A
1. Is this a new, or currently unpermitted facility?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2. Are all permissible outfalls (including combined sewer overflow points, non-process water and storm water) from the facility properly identified and authorized in the permit?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

B. Permit/Facility Characteristics -- cont	Yes	No	N/A
3. Does the record or permit contain a description of the wastewater treatment process?	✓		
4. Does the review of PCS/DMR data for at least the last 3 years indicate significant non-compliance with the existing permit?		✓	
5. Has there been any change in streamflow characteristics since the last permit was developed?		✓	
6. Does the permit allow the discharge of new or increased loadings of any pollutants?		✓	
7. Does the record or permit provide a description of the receiving water body(s) to which the facility discharges, including information on low/critical flow conditions and designated/existing uses?	✓		
8. Does the facility discharge to an impaired water (i.e., 303(d) listed water)?		✓	
9. Has a TMDL been developed and approved by EPA for the impaired water?			✓
10. Does the record indicate that the TMDL development is on the State priority list and will most likely be developed within the life of the permit?		✓	
11. Does the facility discharge a pollutant of concern identified in the TMDL?		✓	
12. Have any limits been removed, or are any limits less stringent, than those in the current permit?		✓	
13. Does the permit authorize discharges from Combined Sewer Overflows (CSOs)?		✓	
14. Does the permit allow/authorize discharge of sanitary sewage from points other than the POTW outfall(s) or CSO outfalls [i.e., Sanitary Sewer Overflows (SSOs) or treatment plant bypasses]?		✓	
15. Does the permit authorize discharges of storm water?		✓	
16. Has the facility substantially enlarged or altered its operation or substantially increased its flow or production?		✓	
17. Are there any production-based, technology-based effluent limits in the permit?		✓	
18. Do any water quality-based effluent limit calculations differ from the State's standard policies or procedures?		✓	
19. Are any WQBELs based on an interpretation of narrative criteria?		✓	
20. Does the permit incorporate any variances or other exceptions to the State's standards or regulations?		✓	

B. Permit/Facility Characteristics -- cont	Yes	No	N/A
21. Does the permit contain a compliance schedule for any limit or condition?		✓	
22. Does the permit include appropriate Pretreatment Program requirements?			✓
23. Is there a potential impact to endangered/threatened species or their habitat by the facility's discharge(s)?		✓	
24. Have impacts from the discharge(s) at downstream potable water supplies been evaluated?			✓
25. Is there any indication that there is significant public interest in the permit action proposed for this facility?		✓	
26. Has previous permit, application, and fact sheet been examined?	✓		

**Part IIa. NPDES Draft Permit Checklist
Region III NPDES Permit Quality Checklist – for POTWs**

A. Permit Cover Page/Administration	Yes	No	N/A
1. Does the record or permit describe the physical location of the facility, including latitude and longitude (not necessarily on permit cover page)?			
2. Does the permit contain specific authorization-to-discharge information (from where to where, by whom)?			

B. Effluent Limits – General Elements	Yes	No	N/A
1. Does the record describe the basis of final limits in the permit (e.g., that a comparison of technology and water quality-based limits was performed, and the most stringent limit selected)?			
2. Does the record discuss whether "antibacksliding" provisions were met for any limits that are less stringent than those in the previous NPDES permit?			

C. Technology-Based Effluent Limits (POTWs)	Yes	No	N/A
1. Does the permit contain numeric limits for <u>ALL</u> of the following: TSS, pH and BOD (or alternative, e.g., CBOD, COD, TOC)?			
2. Does the permit require at least 85% removal for BOD (or BOD alternative) and TSS (or 65% for equivalent to secondary) consistent with 40 CFR Part 133?			
2.a. If no, does the record indicate that application of WQBELs, or some other means, results in more stringent requirements than 85% removal or that an exception consistent with 40 CFR 133.103 has been approved?			
3. Are technology-based permit limits expressed in the appropriate units of measure (e.g., concentration, mass, SU)?			
4. Are permit limits for BOD and TSS expressed in terms of both long term (e.g., average monthly) and short term (e.g., average weekly, daily maximum) limits?			
5. Are any concentration limitations in the permit less stringent than the secondary treatment requirements (30 mg/l BOD5 and TSS for a 30-day average and 45 mg/l BOD5 and TSS for a 7-day average)?			
5.a. If yes, does the record provide a justification (e.g., waste stabilization pond, trickling filter, etc.) for the alternate limitations?			

D. Water Quality-Based Effluent Limits	Yes	No	N/A
1. Does the permit include appropriate limitations consistent with 40 CFR 122.44(d) covering state narrative and numeric criteria for water quality?			
2. Does the record indicate that any WQBELs were derived from a completed and EPA approved TMDL?			

D. Water Quality-Based Effluent Limits – cont.	Yes	No	N/A
3. Does the record provide effluent characteristics for each outfall?			
4. Does the record document that a "reasonable potential" evaluation was performed?			
4.a. If yes, does the record indicate that the "reasonable potential" evaluation was performed in accordance with the State's approved procedures?			
5. Does the record describe the basis for allowing or disallowing in-stream dilution or a mixing zone?			
6. Does the record present WLA calculation procedures for all pollutants that were found to have "reasonable potential"?			
7. Does the record indicate that the "reasonable potential" and WLA calculations accounted for contributions from upstream sources (i.e., do calculations include ambient/background concentrations)?			
8. Does the permit contain numeric effluent limits for all pollutants for which "reasonable potential" was determined?			
9. Are all final WQBELs in the permit consistent with the justification and/or documentation provided in the record?			
10. For all final WQBELs, are BOTH long-term (e.g., average monthly) AND short-term (e.g., weekly average, maximum daily, or instantaneous) effluent limits established?			
11. Are WQBELs expressed in the permit using appropriate units of measure (e.g., mass, concentration)?			
12. Does the record indicate that an "antidegradation" review was performed in accordance with the State's approved antidegradation policy?			

E. Monitoring and Reporting Requirements	Yes	No	N/A
1. Does the permit require at least annual monitoring for all limited parameters and other monitoring as required by State and Federal regulations?			
1.a. If no, does the record indicate that the facility applied for and was granted a monitoring waiver, AND, does the permit specifically incorporate his waiver?			
2. Does the permit identify the physical location where monitoring is to be performed for each outfall?			

E. Monitoring and Reporting Requirements cont'd	Yes	No	N/A
3. Does the permit require at least annual influent monitoring for BOD (or BOD alternative) and TSS to assess compliance with applicable percent removal requirements?			
4. Does the permit require testing for Whole Effluent Toxicity (if applicable)?			

F. Special Conditions	Yes	No	N/A
1. Does the permit include appropriate biosolids use/disposal requirements?			
2. Does the permit include appropriate storm water program requirements?			
3. If the permit contains compliance schedule(s), are they consistent with statutory and regulatory deadlines and requirements?			
4. Are other special conditions (e.g., ambient sampling, mixing studies, TIE/TRE, BMPs, special studies) consistent with CWA and NPDES regulations?			
5. For CSO facilities, does the permit require implementation of the "Nine Minimum Controls"?			
6. For CSO facilities, does the permit require development and implementation of a "Long Term Control Plan"?			
7. For CSO facilities, does the permit require monitoring and reporting for CSO events?			

G. Standard Conditions	Yes	No	N/A
1. Does the permit contain all 40 CFR 122.41 standard conditions or the State equivalent (or more stringent) conditions?			
List of Standard Conditions – 40 CFR 122.41			
Duty to comply	Property rights	Reporting Requirements	
Duty to reapply	Duty to provide information	Planned change	
Need to halt or reduce activity	Inspections and entry	Anticipated noncompliance	
Not a defense	Monitoring and records	Transfers	
Duty to mitigate	Signatory requirement	Monitoring reports	
Proper O & M	Bypass	Compliance schedules	
Permit actions	Upset	24-Hour reporting	
		Other non-compliance	
2. Does the permit contain the additional standard condition (or the State equivalent or more stringent conditions) for POTWs regarding notification of new introduction of pollutants and new industrial users [40 CFR 122.42(b)]?			

Part IIb. NPDES Draft Permit Checklist
Region III NPDES Permit Quality Review Checklist – For Non-POTWs

A. Permit Cover Page/Administration	Yes	No	N/A
1. Does the record or permit describe the physical location of the facility, including latitude and longitude (not necessarily on permit cover page)?	✓		
2. Does the permit contain specific authorization-to-discharge information (from where to where, by whom)?	✓		

B. Effluent Limits – General Elements	Yes	No	N/A
1. Does the record describe the basis of final limits in the permit (e.g., that a comparison of technology and water quality-based limits was performed, and the most stringent limit selected)?	✓		
2. Does the record discuss whether "antibacksliding" provisions were met for any limits that are less stringent than those in the previous NPDES permit?	✓		

C. Technology-Based Effluent Limits (Effluent Guidelines & BPJ)	Yes	No	N/A
1. Is the facility subject to a national effluent limitations guideline (ELG)?		✓	
1.a. If yes, does the record adequately document the categorization process, including an evaluation of whether the facility is a new source or an existing source?			
1.b. If no, does the record indicate that a technology-based analysis based on Best Professional Judgement (BPJ) was used for all pollutants of concern discharged at treatable concentrations?	✓		✓
2. For all limits developed based on BPJ, does the record indicate that the limits are consistent with the criteria established at 40 CFR 125.3(d)?			✓
3. Does the record adequately document the calculations used to develop both ELG and /or BPJ technology-based effluent limits?	✓		
4. For all limits that are based on production or flow, does the record indicate that the calculations are based on a "reasonable measure of ACTUAL production: for the facility (not design)?			✓
5. Does the permit contain "tiered" limits that reflect projected increases in production or flow?		✓	
5.a. If yes, does the permit require the facility to notify the permitting authority when alternate levels of production or flow are attained?			
6. Are technology-based permit limits expressed in appropriate units of measure (e.g., concentration, mass, SU)?	✓		

C. Technology-Based Effluent Limits (Effluent Guidelines & BPJ) -- cont	Yes	No	N/A
7. Are all technology-based limits expressed in terms of both maximum daily and monthly average limits?	✓		
8. Are any final limits less stringent than required by applicable effluent limitations guidelines or BPJ?		✓	

D. Water Quality-Based Effluent Limits	Yes	No	N/A
1. Does the permit include appropriate limitations consistent with 40 CFR 122.44(d) covering State narrative and numeric criteria for water quality?	✓		
2. Does the record indicate that any WQBELs were derived from a completed and EPA approved TMDL?			✓
3. Does the record provide effluent characteristics for each outfall?	✓		
4. Does the record document that a "reasonable potential" evaluation was performed?	✓		
4.a. If yes, does the record indicate that the "reasonable potential" evaluation was performed in accordance with the State's approved procedures?	✓		
5. Does the record describe the basis for allowing or disallowing in-stream dilution or a mixing zone?	✓		
6. Does the record present WLA calculation procedures for all pollutants that were found to have "reasonable potential"?	✓		
7. Does the record indicate that the "reasonable potential" and WLA calculations accounted for contributions from upstream sources (e.g., do calculations include ambient/background concentrations where data are available)?	✓		
8. Does the permit contain numeric effluent limits for all pollutants for which "reasonable potential" was determined?	✓		
9. Are all final WQBELs in the permit consistent with the justification and/or documentation provided in the record?	✓		
10. For all final WQBELs, are BOTH long-term (e.g., average monthly) AND short-term (e.g., maximum daily, instantaneous) effluent limits established?	✓		
11. Are WQBELs expressed in the permit using appropriate units of measure (e.g., mass concentration)?	✓		
12. Does the record indicate that an "antidegradation" review was performed in accordance with the State's approved antidegradation policy?	✓		

E. Monitoring and Reporting Requirements	Yes	No	N/A
1. Does the permit require at least annual monitoring for all limited parameters?	✓		
1.a. If no, does the record indicate that the facility applied for and was granted a monitoring waiver, AND, does the permit specifically incorporate his waiver?			
2. Does the permit identify the physical location where monitoring is to be performed for each outfall?	✓		
3. Does the permit require testing for Whole Effluent Toxicity in accordance with the State's standard practices (if applicable)?		✓	

F. Special Conditions	Yes	No	N/A
1. Does the permit require development and implementation of a Best Management Practices (BMP) plan or site-specific BMPs?		✓	
1.a. If yes, does the permit adequately incorporate and require compliance with the BMPs?			
2. If the permit contains compliance schedule(s), are they consistent with statutory and regulatory deadlines and requirements?		✓	
3. Are other special conditions (e.g., ambient sampling, mixing studies, TIE/TRE, BMPs, special studies) consistent with CWA and NPDES regulations?	✓		

G. Standard Conditions	Yes	No	N/A
1. Does the permit contain all 40 CFR 122.41 standard conditions or the State equivalent (or more stringent) conditions?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
List of Standard Conditions – 40 CFR 122.41			
Duty to comply			
Duty to reapply			
Need to halt or reduce activity not a defense			
Duty to mitigate			
Proper O & M			
Permit Actions			
Property rights			
Duty to provide information			
Inspections and entry			
Monitoring and reporting			
Signatory requirement			
Reporting requirements			
Planned change			
Anticipated noncompliance			
Transfers			
Monitoring Reports			
Compliance schedules			
24-hour reporting			
Other non-compliance			
Bypass			
Upset			
2. Does the permit contain the additional standard condition (or the State equivalent or more stringent conditions) for existing non-municipal dischargers regarding pollutant notification levels [40 CFR 122.42(a)]?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Part III. Signature Page

Based on a review of the data and other information submitted by the permit applicant, and the draft permit and other administrative records generated by the Department and/or made available to the Department, the information provided on this checklist is accurate and complete, to the best of my knowledge.

Name

MARK TRAV

Title

Permit Writer

Signature

MS Trav

Date

11-2-09